

UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 22, 2009

Mr. Larry Meyer Site Vice President FPL Energy Point Beach, LLC 6610 Nuclear Road Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION FROM REACTOR SYSTEMS BRANCH RELATED TO LICENSE AMENDMENT REQUEST NO. 247 SPENT FUEL POOL STORAGE CRITICALITY CONTROL (TAC NOS. MD9321 AND MD9322)

Dear Mr. Meyer:

By letter to the Nuclear Regulatory Commission (NRC) dated July 24, 2008, as supplemented by letter dated September 19, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML082240685 and ML082630114, respectively), FPL Energy Point Beach, LLC, submitted a license amendment application to revise the Point Beach Nuclear Plant (PBNP), Units 1 and 2, licensing basis to reflect a revision to the spent fuel pool (SFP) criticality analysis methodology.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure to this letter. During a discussion with your staff on April 14, 2009, it was agreed that you would provide the additional information within 30 days of the date of this letter.

The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-2048.

Sincerely,

Justin C. Poole, Project Manager Plant Licensing Branch III-1 Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

Docket No. 50-266 and 50-301

Enclosure: Request for Additional Information

cc w/encl: Distribution via ListServ



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REQUEST FOR ADDITIONAL INFORMATION

POINT BEACH NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1. Code validation

Section 1.4.2 of Enclosure 6 of the letter dated July 24, 2008 (ADAMS Accession No. ML082240685), discusses the validation of the SCALE-PC code used in criticality calculations. To allow the NRC staff to evaluate the adequacy of the validation, please provide the following additional information:

- a) Discuss and justify the method you used to select the benchmarks identified in Tables 1-1 and 1-2. For example, what parameters were considered to correlate the benchmarks to the systems being analyzed? What ranges were considered for those parameters?
- b) Please provide additional details characterizing the benchmarks in terms of the parameters cited in Question 1a above, or submit References 9 through 12 of WCAP-16541-P Revision 2. Currently, the submittal lack sufficient information to evaluate the applicability of the benchmarks to the systems being analyzed.
- c) Document and justify the area of applicability for the benchmarks.
- d) Describe and justify any statistical and trending analyses performed to support the determination of the bias and bias uncertainty.
- e) How did you account for the measurement uncertainties for the benchmarks?
- 2. Tolerance/Uncertainty calculations
 - a) Why did you not include the fuel pellet diameter uncertainty in "All-Cell" and "1-out-of-4 5.0 w/o Fresh with no IFBA [integral fuel burnable absorber]" when you included it in "1out-of-4 4.0 w/o Fresh with IFBA" case?
 - b) How do you determine what manufacturing tolerances to include in the uncertainty study?
 - c) You appear to assume that the sum of biases and uncertainties for a given configuration remains constant for the different combinations of enrichment, burnup, decay period, and number of IFBAs (for the "1-out-of-4 4.0 w/o Fresh with IFBA"). Please substantiate this assumption quantitatively.
- 3. Bounding fuel design
 - a) In Section 1.5, you state that the Standard fuel design is bounding for spent fuel and OFA is bounding for fresh. Please quantitatively justify that this assumption is valid for all anticipated storage configurations and burnup/enrichment combinations at Point Beach.
 - b) In Section 3.2, you state, "Westinghouse standard fuel assembly design was modeled as the design basis fuel assembly to represent typical fresh and depleted fuel assemblies residing in all of the fuel assembly storage configurations." Does this contradict the statements in Section 1.5?

- c) You also state "checkerboard storage configuration utilize the OFA fuel design." What do you mean by "checkerboard?" Are you referring to the 1 out of 4 configuration?
- 4. IFBA depletion effect
 - a) Letter dated September 19, 2008 (ADAMS Accession No. ML082630114), provided a response to the staff acceptance review. You state in response to Question 4, that the "results demonstrate that including the residual ¹⁰B provides sufficient reactivity margin to account for the spectral hardening caused by the presence of IFBA during the depletion." This statement conflicts with NUREG/CR-6760 which states that, "… the Δk values become positive for fuel assembly designs containing IFBA rods but remain negative for gadolinia-bearing fuel assembly designs." NUREG/CR-6760 further states that "… analyses show that there is a negative residual effect for gadolinia-bearing fuel but no such effect for fuel designs with IFBA rods." Please resolve the difference in conclusions between your analysis and that of NUREG/CR-6760.
 - b) What enrichment was used for the calculations in the table titled, "Results of Calculations with IFBA Present During Depletion?" Please justify that the results are based on the limiting enrichment and burnup combinations.
- 5. Soluble Boron Credit

Letter dated September 19, 2008 (ADAMS Accession No. ML082630114), provided a response to the staff acceptance review. Response to Question 2 discussed the effect of "parallel" accounting method on the boron concentration required for accident conditions. Please justify the effect of "parallel" accounting method on the boron concentration required for nominal conditions.

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/ra/

Justin C. Poole, Project Manager Plant Licensing Branch III-1 Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

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ADAMS Accession Number: ML090900617

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